DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

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WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE: AREA 704
373-4083

December 8, 1981

Mr. James P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Re: Catawba Nuclear Station
Unit 1
Docket No. 50-413

Dear Mr. O'Reilly:

Pursuant to 10 CFR 50.55e, please find attached Significant Deficiency Report SD 413/81-28.

Very truly yours,

William O. Parker, Jr.

William O. Parker, Jr. By [illegible]

RWO/php
Attachment

cc: Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington D. C. 20555

Resident Inspector-NRC
Catawba Nuclear Station

Mr. Robert Guild, Esq.
Attorney-at-Law
314 Pall Mall
Columbia, South Carolina 29201

Palmetto Alliance
2135½ Devine Street
Columbia, South Carolina 29205

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CATAWBA NUCLEAR STATION

Report Number: SD 413/81-28

Report Date: December 8, 1981

Facility: Catawba Nuclear Station Unit 1

Identification of Deficiency:

Radiographic film for reactor vessel CRDM housing welds supplied by Westinghouse does not meet the requirements of ASME Section III, Appendix IX. (CA-81-19)

Description of Deficiency:

On June 3, 1981, Messrs. W. O. Henry, J. K. Berry, and J. E. Cavender advised Mr. J. Bryant of NRC, Region II, of this deficiency.

On June 24, 1981, Westinghouse determined that thirteen (13) RT films at Catawba exceeded the film density requirement.

Evaluation of Deficiency:

Westinghouse fabricated a mock-up of the CRDM housing welds and radiographed the mock-up using the same RT technique that was used originally. Artificial discontinuities were introduced in the mock-up which consisted of a 1/32 inch (0.032 inch) groove and a 1/16 inch (0.063 inch) diameter hole.

The essential features of the IQI (penetrameter) and the artificial flaws were clearly discernable in the radiographs of the mock-up.

Westinghouse radiographed the thirteen (13) CRDM housing welds at Catawba. No rejectable indications were detected by this examination.

Indications of porosity of approximately 1/65 inch (0.016 inch) were discernable in some instances on some of the film. This information verified that the radiographic technique is sufficiently sensitive to detect discontinuities which would be considered rejectable for these welds even though all the essential parameters of radiography may not have been met.

In addition, Westinghouse performed a fracture mechanics evaluation of the welds which indicates that a very large flaw would be necessary to cause failure of the weld. (A copy of the Westinghouse report is attached.) Therefore, we conclude that these welds would not have failed.

Corrective Action:

These radiographs were produced approximately 8 to 10 years ago. We do not anticipate receiving any other radiographs produced by this organization (RDM). All other radiographs, which were produced by RDM were reviewed and no other discrepancies were detected. No other action is planned.

DUKE - 8632
CATAWBA - 2702

Westinghouse Electric Corporation | Water Reactor Divisions | Box 355 Pittsburgh, Pennsylvania 15230

December 4, 1981

MPS #4100
MPS #35924

S.O. DBP-105
S.O. DCP-105

Mr. S. K. Blackley, Jr.
Chief Engineer
Mechanical and Nuclear Division
Duke Power Company
P.O. Box 33189
Charlotte, North Carolina 28242

Attention: V. H. Shellhorse
P.R. Herran

McGuire Nuclear Station Unit 2
Catawba Nuclear Station Unit 1

Final Report on Radiographic Testing of CRDM Adaptor Welds

Dear Mr. Blackley:

Attached is a copy of the letter and final report resolving the reportable item on radiographic testing of CRDM Adapter Welds on the Rotterdam Drydock Reactor Vessel. Westinghouse sent this report to Richard C. De Young at the NRC on November 25, 1981.

If you have any questions concerning this, please contact M. L. Fish.

Yours truly,

R. S. Howard, Manager
Duke Power Projects

M.L.Fish/cm

attachment

cc: D. L. Fuller 1L
S. K. Blackley 6L, 6A